

11. The pharmaceutical composition of claim 10, wherein the antibody is humanized.

12. A method for treating an animal for inducing protective immunity against multiple sclerosis, the method comprising the step of administering to said animal an antigen including an interferon gamma inducing factor or an immunogenic portion thereof, thereby eliciting an antibody being capable of binding an interferon gamma inducing factor.

13. A pharmaceutical composition for inducing protective immunity against multiple sclerosis, comprising a pharmaceutically acceptable carrier and an interferon gamma inducing factor or an immunogenic portion thereof, thereby eliciting an antibody being capable of binding an interferon gamma inducing factor.

14. A method for treating an animal for inducing protective immunity against multiple sclerosis, the method comprising the step of administering to said animal a therapeutic composition including a recombinant construct including an isolated nucleic acid sequence encoding a polypeptide being capable of eliciting antibodies capable of neutralizing an interferon gamma inducing factor in affecting cells to produce interferon gamma.

15. The method of claim 14, wherein said nucleic acid sequence being operatively linked to one or more transcription control sequences.

16. The method of claim 15, wherein said transcription control sequences are selected from the group consisting of RSV control sequences, CMV control sequences, retroviral LTR sequences, SV-40 control sequences and β -actin control sequences.

17. The method of claim 14, wherein said recombinant construct is an eukaryotic expression vector.

18. The method of claim 14, wherein said recombinant construct is selected from the group consisting of pcDNA3, pcDNA3.1(+/-), pZeoSV2(+/-), pSecTag2, pDisplay, pEF/myc/cyto, pCMV/myc/cyto, pCR3.1, pCI, pBK-RSV, pBK-CMV, pTRES and their derivatives.

19. The method of claim 14, wherein said therapeutic composition is administered to the animal parenterally.

20. The method of claim 14, wherein said animal is a human being.

21. A method for treating an animal for inducing protective immunity against multiple sclerosis, the method comprising the steps of:

- (a) removing cells of said animal;
- (b) genetically modifying said cells in vitro with a recombinant construct including an isolated nucleic acid sequence encoding an interferon gamma inducing factor or an immunogenic portion thereof; and
- (c) reintroducing said genetically modified cells to said animal.

22. The method of claim 21, wherein said nucleic acid sequence is operatively linked to one or more transcription control sequences.

23. The method of claim 22, wherein said transcription control sequences are selected from the group consisting of RSV control sequences, CMV control sequences, retroviral LTR sequences, SV-40 control sequences and β -actin control sequences.

24. The method of claim 21, wherein said recombinant construct is an eukaryotic expression vector.

25. The method of claim 21, wherein said recombinant construct is selected from the group consisting of pcDNA3, pcDNA3.1(+/-), pZeoSV2(+/-), pSecTag2, pDisplay, pEF/myc/cyto, pCMV/myc/cyto, pCR3.1, pCI, pBK-RSV, pBK-CMV, pTRES and their derivatives.

26. The method of claim 21, wherein said genetically modified cells are reintroduced to the animal parenterally.

27. The method of claim 21, wherein said animal is a human.

28. A pharmaceutical composition for inducing protective immunity against multiple sclerosis, comprising a pharmaceutically

acceptable carrier and a recombinant construct including an isolated nucleic acid sequence encoding a polypeptide being capable of eliciting antibodies capable of neutralizing an interferon gamma inducing factor in affecting cells to produce interferon gamma.

29. The pharmaceutical composition of claim 28, wherein said pharmaceutically acceptable carrier is selected from the group consisting of an aqueous physiologically balanced solution, an artificial lipid-containing substrate, a natural lipid-containing substrate, an oil, an ester, a glycol, a virus and metal particles.

30. The pharmaceutical composition of claim 28, wherein said pharmaceutically acceptable carrier comprises a delivery vehicle that delivers said nucleic acid sequences to said animal.

31. The pharmaceutical composition of claim 30, wherein said delivery vehicle is selected from the group consisting of liposomes, micelles, and cells.

32. The pharmaceutical composition of claim 28, wherein said recombinant construct is an eukaryotic expression vector.

33. The pharmaceutical composition of claim 28, wherein said composition is suitable for parenteral administration to a human.

34. The use of an anti interferon gamma inducing factor antibody in the treatment of multiple sclerosis.

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